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UNIVERSITY OF IOWA STUDIES

STUDIES IN EDUCATION

VOLUME II NUMBER 3

A COMPARISON BETWEEN GENERAL AND SPECIAL METHODS COURSES IN THE TEACHING OF HIGH SCHOOL SUBJECTS

BY

CARL GUSTAVE FREDERICK FRANZEN

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UNIVERSITY OF IOWA STUDIES IN EDUCATION

CHARLES L. ROBBINS, PH. D., Editor

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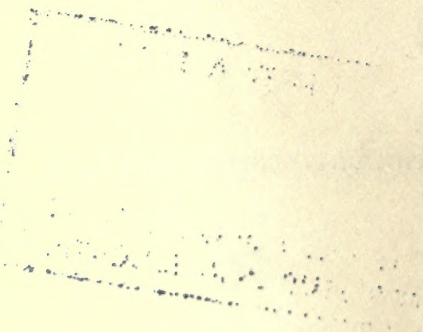

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PREFACE

These chapters on a comparison of general and special method courses have been taken from the author's dissertation on the same subject. The chapters which have been omitted deal with specific courses and their analyses. Because of the large expense involved in the printing of the extensive material, it is deemed best not to include them in the present printed form. Any one interested in the particular courses and wishing to obtain more specific information in regard to them may receive such information by writing to the author.

CARL G. F. FRANZÉN.

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CHAPTER I

INTRODUCTION

NATURE AND METHOD OF THE STUDY

The investigation with which this article deals was begun in the fall of 1919. From the latest catalogues available in the library of the University of Iowa a list was made of the institutions in the country which seemed to make mention of offering general or special methods in the courses of teaching high school subjects.* The names of the instructors of such courses might have been taken directly from the catalogues, but, since so many of the announcements were two or more years old, it was considered best to write directly to the heads of the departments of education and to ask them for the names of all those who instructed in methods work.

Accordingly a letter was then sent during the first week in October to two hundred fifteen colleges and universities. This letter indicated that the writer was conducting an investigation into the comparison between the general and special methods courses in the teaching of high-school subjects, *e. g.*, The Teaching of High School Subjects *versus* The Teaching of Latin, The Teaching of Mathematics, etc. Then followed a request for the names of instructors who teach such courses, and the names of the courses taught.

One hundred thirty-one returns were received in the course of the next two months. Seventeen correspondents misunderstood what was wanted, or were not offering any work in methods, or were not giving it until the second semester. The other one hundred fourteen were then listed by instructors according to subject taught and institution.

A form letter was then sent to each instructor whose name had been listed. The letter was to the following effect:

*By course in general methods is meant one that aims to give the student general information in regard to the conduct of the recitation and is given by the department of education. A course in special methods aims to impart the technique of teaching some one special subject taught in the high school, such as English, Mathematics, French, etc., and is offered by the department of English, Mathematics, French, etc.

One of the most difficult problems in organizing a course of training for the prospective high-school teacher is the determination of the precise function of two types of classes, the general methods class and the special methods class. I am making a study of this problem. My method is to collect outlines, lecture notes, and syllabi from teachers and students in all parts of the country. I am particularly interested in the content of the course; others are investigating the question of practice teaching and observation. I am anxious to secure as much information as possible about the class you teach in the Methods of Teaching High School ..... I realize that I am asking a great deal, but I feel confident that the results will demonstrate the value of the investigation. In order that I may obtain the necessary material for this investigation, I shall be grateful if you will send me one or all of the following:

An outline of the course;
A syllabus of the course;
A letter telling of the *content* of the course;
Or, the name and address of one of the best students who has had the course, and your permission to write him for this information.

The table on page 9 shows the number of letters sent out in each subject and the number and the character of the replies received:

The number of letters sent out and the corresponding number of returns indicate the methods courses that are most commonly taught, *viz.*, English, modern languages, history, home economics, Latin, mathematics, and general methods. Three courses, astronomy, hygiene, and earth sciences, had but one representative each. No pertinent replies were received from any one of the three. Other courses which either were not answered, or, if answered, gave no information about their contents were those in physiology, commercial subjects, Norwegian, ethics, normal training, psychology, geology, and physical education.

In the endeavor to analyze the courses that have been presented in this investigation, they have been grouped under eight main headings:

Aesthetic studies
Biological sciences
Physical sciences
Languages
Vocational studies
Mathematics
History
General methods course

	Number of letters	Number of replies		Per cent	Number of pertinent replies	Per cent	Number of students' notes
Agriculture	18	11		58	5	26	1
Art	13	5		38	3	23	0
Astronomy	1	0		..	..	..	..
Biology	15	8		53	5	30	0
Zoology	9	8		89	5	56	1
Physiology	3	2		67	0	..	..
Hygiene	1	0		..	..	..	..
Botany	14	10		71	8	57	3
Chemistry	23	12		52	6	27	0
Commercial subjects	7	1		14	0	..	..
English	81	39		48	23	28	16
French and modern languages	46	24		52	17	37	1
General science	5	1		20	0	..	..
German	30	18		60	12	40	1
History	58	32					
Social sciences	11	6					
	69		38	55	19	28	1
Home economics	50	23		46	13	26	1
Latin and Greek	61	29		48	19	39	5
Manual arts	11	6		55	2	18	1
Mathematics	63	29		46	19	30	3
Miscellaneous:							
Norwegian	2	0		..	0	..	..
Swedish	2	1		50	1	50	..
Ethics, normal training, and psychology	4	4		100	0	..	..
Music	23	6		27	3	13	1
Physical sciences	4	3		75	1	25	0
Geography	10	6		60	3	30	2
Geology	3	2		67	0	..	..
Sciences	1	0		..	..	..	..
Physical education for men	8	3		13	0	..	0
Physical education for women	18	5		28	0	..	0
Physics	28	15		54	9	36	1
Public speaking	13	9		69	4	31	0
Spanish	11	6		55	4	36	0
Teaching of H. S. subjects	89	63		71	38	43	5
Total	736	387		53	219	30	33

The *aesthetic studies* include art, physical training, and music; *biological sciences,* agriculture, biology, zoology, and botany; *physical sciences,* chemistry, physics, physical sciences, and

geography; *languages,* Latin, French, German, Spanish, Swedish, English, and public speaking; *vocational studies,* home economics and manual arts; *history,* history and the social sciences; *mathematics,* mathematics.

The outlines of the courses in each one of the minor divisions constitute a section, and these divisional sections form a chapter. Every section contains a table of the number of inquiries sent out, the number of answers received, the percentage of answers received in proportion to inquiries sent, the number of pertinent answers, *i. e.,* answers that have given more or less information about the content of the courses concerned, the percentage of pertinent answers in proportion to the total number of inquiries, and the number of students' letters or notebooks received. Each section consists of the outlines of all such courses as give information as to the contents. At the end of each section is a summary to indicate the frequency of occurrence of any one topic that has been discussed in class by the instructor.

After all the section summaries have been made, the investigation brings out its findings in a comparison of the summaries of the courses in special methods with the summary of the course in general methods.

CHAPTER II

SUMMARY AND ANALYSIS

METHOD OF TREATING THE DATA

The method of procedure in dealing with the separate methods courses was to subject each one to a minute scrutiny and analysis with a view to tabulating the distinctive features of the separate courses in a summary and thus presenting in succinct form all the practices in use. These summaries appear at the end of every section that deals with the methods courses in each separate subject. No attempt was made to criticize or evaluate the findings, a task reserved for treatment in this chapter. The object of this chapter, then, is to combine the sectional summaries into tables so that it may be possible to discover how many courses deal with different phases of the content of the high-school subject matter in each field from the point of view of methodology rather than to examine into the manifold items that compose each course. One fact to be considered is that each course contains items which do not lend themselves to ready classification under a particular heading. The topics that occur most frequently are grouped separately without difficulty; but this is not true of the minor and particular topics, which are concerned especially with the content material. When such instances arise, the many items that are separately listed in each summary have been thrown together as constituting part of the content of that particular course. Again, it must be noted that merely because special mention is not made of some particular topic, the assumption should not follow that this topic may not have been considered during the course of instruction. This condition was due to the great variety in the nature of the replies. A total of 387 returns from instructors gave the following miscellany:

Letters	340
Outlines	81
Printed articles	40
Syllabi	15
Postcards giving no information at all	75

From thirty-eight students who replied to requests for the use of their note-books:

Number of letters written..... 36
Sets of notes submitted 22

Because of this miscellany, which ranges from complete outlines to hastily written and brief letters, it is readily understood how mention of many topics that were actually presented to the class and discussed by instructor and students has in many instances gone unrecorded. Consequently the figures which indicate the frequency of occurrence of a topic are true only in so far as they represent the actual statements of the outlines and letters that form the basis for this investigation. Even so, their truthfulness in portraying the actual situation is increased by the law of probability that the more important items are those that are the least likely to go unmentioned. By taking the figures in the gross, we find what the general tendency is and thus accomplish the purpose of the investigation.

In the summaries of the special methods courses seven main headings have been employed to indicate the basis of analysis.

I. *Aims, values,* etc.—includes such topics as the aims of and reasons for teaching the subject in high school, the values assigned to the acquisition of its subject matter, its relation to other subjects in the curriculum, its place in the history of education, and a general treatment of educational values.

II. *Books*—the study, examination, criticism, and selection of high-school textbooks, reference books, bibliography, publishers, and the use of the library.

III. *Equipment*—the laboratory or classroom equipment, its amount, kind, cost, and care, sources for materials, accessory aids, etc.

IV. *Content*—the study of the course of study, the selection and organization of subject matter, and the review of the content as taught in high schools.

V. *The teacher*—preparation, personality, and progress.

VI. *The pupil*—the high-school age, or the study of adolescence.

VII. *Methods*—special methods, general methods, lesson planning, practice teaching, observation of teaching, readings and reports on special problems connected with teaching, the

more particular phases of the recitation, *viz.*, types of recitation, the assignment, methods of study, reviews, testing for knowledge, use of the notebook, and the more general phases, classroom organization, management and discipline, methods of grading, and educational tests and measurements.

The above seven topics will be analyzed and discussed in the order given, and the findings under each heading will be listed in two tables. Part I of each table will include such items as occur with sufficient frequency to warrant their identification with the separate special methods courses. Part II will contain the totals only of items whose low frequency makes it unnecessary to give them separate treatment. The numbers after each item signify the total number of courses in which these items occur. Finally, a brief discussion will be given of the place these items occupy in a methods course.

AIMS

TABLE A (Part I)

	Number of courses	Aims	Other aims	Values	Other values	Place in education	Place in curriculum	Correlations	Historical sketch	Other Relations	Definition, nature, and scope
Art	3	2	..	..	..	..	2	2	..	..	..
Music	4	1	..	1	..	..	..	..	1	..	..
Agriculture	6	1	..	..	..	..	1	2	1	1	1
Biology	5	3	3	1	2	1	..	..	2	1	..
Zoology	5	2	..	1	..	1	2	1	1	..	..
Botany	8	2	..	1	..	..	1	1	2	..	1
Chemistry	6	1	..	..	..	..	1	1	..	1	..
Physics	9	..	..	..	..	..	..	..	2	..	..
Physical science	1	1	..	..	..	1	1	1	1	..	..
Geography	4	1	..	3	..	..	1	..	1	..	1
Latin	20	6	2	9	1	3	3	2	..	2	..
French	18	2	..	2	..	1	1	..	3	..	..
German	12	1	1	1	1	..	..	..	..	..	..
Spanish	4	1	1	1	..	..	..	..	2	1	..
Swedish	1	..	..	1	1	1	..	..	1	..	..
English	28	5	13	1	2	..	2	3	..	7	1
Public speaking	5	2	..	..	..	..	..	1	..	..	..
Home economics	13	9	2	2	..	..	1	4	12	1	5
Manual arts	2	2	..	..	..	..	..	..	1	..	2
Mathematics	21	7	..	5	4	..	..	..	10	..	8
History	19	8	..	5	..	3	3	..	..	..	..
Totals	194	57	22	34	11	11	19	18	40	14	19

TABLE A (Part II)

Aims of course	8	Meaning of education	1
Point of view	5	Principles of education	1
Application	4	Purpose and function of high school	1
Relation to community	3	Development of high school	1
Nature and scope of secondary education	1	History of education	1
Contribution	1	Ideals	1

Under this heading have been grouped twenty-one sub-topics, whose rank in order of frequency is:

1. Aims
2. Historical sketch
3. Values
4. Other aims
5. Place in curriculum
6. Definition, nature, and scope
7. Correlations with other subjects
8. Other relations
9. Other values
10. Justification: place in education
11. Aims of the course
12. Point of view
13. Applications
14. Relation to the community
15. Contributions
16. Meaning of education
17. Purpose of education
18. Purpose and function of high school
19. Development of the high school
20. History of education
21. Ideals

Relative to each other, the first ten topics form a group by themselves; the others occur so infrequently as to make them incidental to this or that course. Seven of the first ten are very definite in their meaning and purpose. The student should first of all be made acquainted with the aims of the subject which he is to teach. Only by knowing these aims and the values attached to the study of the subject will he be able to defend himself against outside attacks and criticisms. An historical sketch gives him a background of the introduction into the school cur-

riculum and the subsequent progress of its course so that he may understand its present place in the curriculum and its relations to other subjects. The definition, nature, and scope of the subject, as well as a justification for its place in education, come properly under the discussion of aims and values. Other aims, relations and values refer to such considerations as, *e. g.*, the aims of education in general, the relations between different parts of the same subject, and the value of Spanish for the study of Latin.

The topics are scattered so generally among the different subjects as to merit no special attention by any one. In the case of mathematics it is to be noted that special stress is laid upon its practical applications, whereas in history it is the historical point of view that is sought after.

BOOKS

TABLE B (Part I)

	Number of courses	Examination and study of text-books	List of texts	Reference	Bibliography	Periodicals	The library
Art	3	1	..	..	..	..	..
Music	4	2	3	..	..	..	..
Agriculture	6	3	..	4	4	2	1
Biology	5	2	..	..	..	..	..
Zoology	5	3	..	3	1	..	1
Botany	8	2	1	..	..	..	..
Chemistry	6	4	2	3	..	..	1
Physics	9	4	5	1	..	..	1
Physical science	1	1	..	..	..	..	1
Geography	4	3	..	1	..	1	1
Latin	20	10	6	4	4	3	2
French	18	10	..	..	3	..	..
German	12	11	..	2	1	1	1
Spanish	4	3	..	..	1	1	1
Swedish	1	1	..	..	..	..	..
English	28	7	..	1	3	..	7
Public speaking	5	2	..	1	..	..	1
Home economics	13	13	..	8	8	1	1
Manual Arts	2	1	..	..	..	..	..
Mathematics	21	11	..	..	1	1	1
History	19	13	..	5	3	3	6
Totals	194	107	17	33	29	13	26

TABLE B (Part II)

Cataloguing and indexing	6
Use of books	1
Bulletins	5
Publishing houses	4
Supplementary reading	2
Cost of books	2
Other books	4

The order of importance of the various topics considered and discussed is:

1. Examination and study of text-books
2. Lists of reference books
3. Bibliography
4. The library
5. Texts used in the course
6. Periodicals
7. Cataloguing and indexing
8. Bulletins
9. Publishing houses
10. Other books
11. Supplementary reading
12. Cost of books
13. Use of books

As is to be expected in a discussion on books, the most important element is that of the text-books which the teacher uses in the course of instruction. The common method is to examine and compare the text-books most frequently used in each particular phase of the subject, in order to discover their strong and weak points, especially the outstanding features that make one preferable to another, so that, when the student gets into actual teaching, he may be prepared to handle any text-book in his line without feeling that he is a stranger to it. It is also necessary for him to have in his possession a bibliography and list of reference books to assist him in procuring the most suitable sup- under that of the library, for what the student needs to know about the library is how to secure one for his own department or how to make use of the library that the school already has. He needs to know the minimum number of books on which he can get along and the necessary steps to take in order to be supplied with additional books. It is to be observed that there are

two subjects, English and history, which emphasize the use of the library. This is natural, as both of these subjects depend for much of their work upon the use of supplementary material.

Among the topics of the second division the question of the cost of the books and of the names of publishing houses ought to receive more attention. Very often the student teaches in a town that has no bookstore of any consequence. If he wishes to order books either for himself or for his school library, he must send in the order himself. It is well for him to know the names of the nearest and most reputable wholesale houses, as well as of the publishers themselves, to whom he may send his order. Agriculture stresses both the cataloguing and indexing of reference and bulletin material and the collection itself of bulletins. By these means the teacher of agriculture is kept in touch with the very latest developments in his field.

EQUIPMENT

TABLE C (Part I)

	Number of courses	Equipment	Kind	Equipment of laboratory	Use of material and instruments	Arrangement of the laboratory	Charts	Illustrative material	Maps
Art	3	..	1	1	1	..	..	..	..
Music	4	3	..	..	..	..	..	..	..
Agriculture	6	..	..	2	..	4	3	1	..
Biology	5	..	..	1	1	..	..	..	..
Zoology	5	..	..	4	3	1	3	1	..
Botany	8	..	..	4	1	2	1	..	..
Chemistry	6	..	2	3	..	3	..	..	..
Physics	9	..	..	5	1	..	..	..	..
Physical science	1	..	..	..	1	1	..	..	..
Geography	4	2	1	..	..	..	1	..	2
Latin	20	2	..	..	..	..	1	4	3
French	18	..	..	..	1	..	..	..	..
German	12	..	..	..	..	..	..	1	1
Spanish	4	..	..	..	..	..	..	1	..
Swedish	1	..	..	..	..	..	..	..	..
English	28	1	..	..	..	..	1	2	..
Public Speaking	5	1	..	..	..	1	..	..	..
Home economics	13	..	6	13	..	1	..	..	..
Manual Arts	2	1	1	..	..	..	..	..	..
Mathematics	21	1	..	..	3	..	..	..	..
History	19	2	..	..	..	..	..	8	10
Totals	194	13	11	33	12	13	10	18	16

TABLE C (Part II)

Amount of equipment	2	Ordering supplies	3
Cost of equipment	2	Breakage and repair	1
Making material	4	Globes	2
Accessory laboratories	6	Pictures	5
Sources and care of material	8	Atlases	1
Collection of material	8	Supplementary aids	7
Dealers	3		

The order of frequency of topics is:

1. Equipment of the laboratory
2. Illustrative material
3. Maps
4. Arrangement of the laboratory
5. Equipment in general
6. The use of instruments and material
7. Kind of equipment
8. Charts
9. Sources of material
10. Collection and preservation of material
11. Supplementary aids
12. Accessory laboratories
13. Pictures
14. Making material
15. Dealers
16. Ordering of supplies
17. Amount of equipment
18. Cost of equipment
19. Globes
20. Breakage and repairs
21. Atlases

Equipment is discussed most naturally in subjects which deal with scientific and vocational studies. Here the laboratory composes so integral a part of the course of instruction that it is necessary for the teacher to become thoroughly acquainted with its equipment, management, and maintenance. His lecture demonstration is by far the most important part of his instruction. Consequently he must be supplied with suitable apparatus for his demonstrations, whether or not he be able to procure the necessary amount for his individual pupils' experimentation. Additional knowledge as to the arrangement of the laboratory

is valuable, especially if the teacher has anything to say about the choice of rooms in a new building or the making over of a room in an old building. As instruments and scientific apparatus are expensive adjuncts of the laboratory, the student must receive instruction in their proper care, so that he may make them endure as long as possible and at the same time render efficient service.

Several items among the minor topics deserve more notice than has been given to them. Of these, the collection and preservation and the making of laboratory material are especially important among the biological sciences. Likewise sources of material, amount and cost of equipment, method of ordering supplies, and the names and addresses of dealers should receive more attention than seems to be paid to them. It may be that all of this information is offered in the discussion of the laboratory and its equipment; the data at hand are not sufficiently definite on this point.

Mathematics, as it is taught to-day, with the emphasis on its practical applications, demands an equipment that will make these applications real. Only four courses make any reference to the use of instruments or other equipment.

In the case of English and history the equipment takes more the form of books and a library. History does emphasize the use of maps and other supplementary aids. That the proper equipment for these two subjects is an important element in their teaching is evidenced by the fact that such an institution as the University of Iowa has spent more money for them in its University High School than for the sciences.

The use of illustrative material stands out among the languages and history. Illustrative material may include anything from pictures taken from magazines to perception cards, phonetic charts, or pictures used to decorate the walls of the classroom. All such aids assist the teacher by providing interesting materials for the pupils.

CONTENT

TABLE D (Part I)

	Number of courses	Study of course of study	Outlines of course of study	Discussion of content material	Points of difficulty and study of special problems	In the grades	Special reports by students of class	Collateral reading and reports	Study and review of content, part or whole, of H.S. course	Principles of selection
Art	3	..	2	3	..	1	..	..	..	..
Music	4	4	3	3	..	1	..	1	..	..
Agriculture	6	..	1	5	5	..	..	..	..	..
Biology	5	3	..	5	1	2	..	..	..	1
Zoology	5	..	..	5	1	1	1	2	2	..
Botany	8	2	2	6	2	..	..	2	..	1
Chemistry	6	..	1	1	..	..	..	2	1	..
Physics	9	..	1	5	3	..	..	3	1	1
Physical science	1	..	..	1	..	..	..	..	..	..
Geography	4	..	1	2	..	1	1	..	1	1
Latin	20	2	..	18	7	1	..	8	15	..
French	18	..	1	8	3	..	3	3	15	..
German	12	1	1	5	..	..	..	3	9	..
Spanish	4	2	1	3	..	..	2	1	1	..
Swedish	1	1	..	..	..	..	..	..	..	..
English	28	4	..	27	..	3	1	11	..	5
Public speaking	5	..	..	3	..	..	2	1	..	..
Home economics	13	11	9	11	..	4	2	6	..	6
Manual arts	2	1	1	2	..	..	..	1	..	..
Mathematics	21	5	..	12	3	..	2	13	7	..
History	19	7	1	11	1	1	5	8	..	3
Totals	194	43	25	136	26	15	19	65	52	18

TABLE D (Part II)

Order of topics	9	In the civic college	1
Federal and state laws	8	Study of advanced work	9
Principles of organization	2	Planning a text-book	1
Reorganization	11	College entrance requirements	5
Working out of problems and projects	6	In the rural schools	3
Length of course	9	In vocational schools	6
Types of courses	3	Types of schools teaching subject	6
In the junior high school	6		

The order of frequency of topics is:

1. Discussion of the content material
2. Collateral readings and reports
3. Study and review of content of the high-school subject matter, in whole or in part
4. Study of courses of study
5. Outlines of courses of study
6. Special reports on assigned topics

7. Points of difficulty—study of special problems of content
8. Principles of selection
9. The subject in the grades
10. Planning courses of study

11. Reorganization of subject matter
12. Order of topics
13. Length of the course
14. Study of advanced work
15. Study of federal and state laws
16. Points of emphasis
17. Working out problems and projects
18. The subject in the junior high school
19. Types of schools teaching the subject
20. College entrance requirements
21. Types of courses
22. The subject in the rural schools
23. The subject in the civic college
24. Planning a text-book

Since it has been rather difficult to distinguish between the selection and organization of subject matter and the discussion of the content material, these two topics have been grouped together under the heading of the second. In like fashion, outlining courses of study and planning courses of study have been put in one group, as have points of difficulty and points of emphasis.

The greatest attention is paid to a discussion of the content material. This discussion does not confine itself to any one type of course but is general to all types. From the frequency of its occurrence it is undoubtedly the most important feature of any course. Closely allied is a study or review of the content of the high-school subject matter which the student is to teach. It is to be noted, however, that the study and review is confined almost entirely to four subjects, Latin, French, German, and mathematics. The question naturally arises—Is the primary aim of the special methods course to take up a detailed study of high-school subject matter? Opinions on this subject, as shown by the outlines of work offered in the courses, differ

considerably. If the statement be true that students who are preparing to teach do not know the subject-matter of what they are to teach, they should be compelled to take another course that would give them this necessary review. From the standpoint of content, the methods course should hold as its chief aim the analysis of the difficulties in the teaching and learning of a certain subject, so that the student would know how to overcome these difficulties when confronted with them in actual teaching. What are the best means to demonstrate to a high-school student the treatment of signed numbers, the mastery of a verb in a foreign language, the association of events, dates, and personages in history, the representation of perspective in drawing, etc.? These are the things the prospective teacher should obtain from the methods course. The instructor can profitably spend almost his whole time in teaching *his* students the methods that will "put the thing across" to *their* pupils.

Another important topic is the study of existing courses of study and the planning or outlining of theoretical courses, together with present problems in reorganization. At the same time much more attention should be paid to the course of study in the grades that prepare for the high school, so that the teacher may know what preparation to expect from his first-year pupils. Without this knowledge he can not adequately outline his course of study or introduce any new schemes of reorganization so as to make the progress from the grades to the high school an easy and natural one.

Principles of selection, order of topics, types of courses, and length of the course are subdivisions of the study of courses of study. The discussion of federal and state laws and the vocational aspects of education properly belong to the field of agriculture, home economics, and presumably manual arts, although the data at hand on the latter subject do not mention these topics.

College entrance requirements receive almost exclusive attention in English; types of school in home economics.

THE TEACHER

TABLE E (PART I)

	Number of courses	Relation to community	Qualifications	Books and magazines	Training and preparation	Appearance and personality	Teachers' meetings and associations	Collateral Activities
Art	3	..	..	..	..	..	..	..
Music	4	1	..	..	..	..	..	..
Agriculture	6	..	..	..	..	..	..	..
Biology	5	..	..	..	1	..	..	..
Zoology	5	..	1	1	..	..	..	..
Botany	8	1	..	..	..	..	..	..
Chemistry	6	..	..	..	..	..	..	..
Physics	9	..	..	..	1	..	..	..
Physical science	1	..	..	1	..	1	1	..
Geography	4	..	..	..	3	..	..	..
Latin	20	..	1	3	3	..	..	..
French	18	..	..	..	2	1	..	..
German	12	..	..	..	2	..	..	..
Spanish	4	..	..	..	2	..	..	..
Swedish	1	..	..	..	..	..	..	..
English	28	..	2	3	6	1	..	6
Public speaking	5	1	1	..	1	..	..	1
Home economics	13	4	4	2	2	2	3	..
Manual arts	2	..	..	..	..	..	..	..
Mathematics	21	..	..	..	..	..	..	..
History	19	..	1	2	1	..	1	..
Totals	194	7	10	12	24	5	5	7

TABLE E (Part II)

The teacher	2	Attitude of the teacher	4
Relation to the school	4	Daily preparation for class	1
Suggestions to teachers	1	Securing a position	1
Self-improvement	4	Teachers' aids	4
Hobby	1	Summer school work	2
Elements of success	1	Training abroad	1
Mistakes of the teacher	2	Certification	2

The order of frequency of topics is:

1. Training and preparation
2. Books and magazines
3. Qualifications
4. Collateral activities
5. Relation to the community
6. Appearance and personality
7. Teachers' meetings and associations
8. Relation to the school

9. Self-improvement
10. Attitude
11. Promotion
12. Mistakes
13. Summer school work
14. Certification
15. Elements of success
16. Suggestions to teachers
17. Hobbies
18. Daily preparation for class
19. Securing a position
20. Training abroad

Although several different topics are presented in this table, only two stand out distinctly from the others, and these are the training, preparation, and qualification of the teacher for teaching a particular subject. English stresses collateral activities, such as debating, dramatic and journalistic organizations. Home economics emphasizes the relation of the teacher to the community. General attention is also given to the books and magazines that a teacher should possess in order to be abreast with the times. Teachers' meetings and associations, summer school work, hobbies, and training abroad are all part of the teacher's self-improvement. Generally speaking, the training qualifications, attitude, and activities of the teacher belong to the field of the general methods course. They should not be given too much time in a special methods course.

THE PUPIL

TABLE F

Under this heading the separate items are listed so infrequently that they are presented with totals only given.

Study of high-school pupil	5	Retardation	1
Psychology of high-school age	4	Needs	6
Mental and physical growth	1	Social aids	3
Scientific study of the individual	1	Nationality	1
Attitude	2	Religion	1
Age	5	Occupation	1
Preparation	4	Future plans	1
Relation of course to the development of pupil	2	Pupils' interests	2
		Types planned for	1
		Difficulties	1

The order of frequency of topics is:

1. Needs
2. Study of the high-school pupil
3. The age of the high-school pupil
4. The psychology of the high-school pupil
5. Attitude
6. Social aids
7. Interests
8. Relation of the course to the development of the pupil
9. Mental and physical growth
10. Scientific study of the individual
11. Retardation
12. Nationality
13. Religion
14. Occupation
15. Future plans
16. Types of pupils for whom the work is planned
17. Difficulties of the pupil

From the relatively insignificant frequency of occurence of any of the above topics the subject of the pupil receives but little attention in special methods courses. Inasmuch as it is so important for the teacher to know all he can about the individuals whom he is to teach, it might be well to stress a little more heavily the consideration of the psychology and needs of the pupil. Especially should he be taught how to investigate the previous preparation of his pupils, the nature of their environment and their possible future plans, so far as these plans may be related to the special subject he is teaching. Ordinarily the discussion of the pupil is reserved for treatment in the general methods course.

METHODS

TABLE G (Part I)

	Number of courses	Special methods	General methods	Laboratory technique	Interest	The recitation	Questioning	Note-book	Lesson plans	Demonstration lesson	Practice teaching	Observation	Field trips	Examinations	Grading Papers	Assignment	Time allotment
Art	3	2	1	..	..	..	..	..	1	..	..	1	..	..	1	..	1
Music	4	3	..	..	..	..	..	..	1	..	1	..	..	..	..	..	1
Agriculture	6	1	..	4	..	4	..	..	1	2	1	2	4	..	..	..	1
Biology	5	4	..	1	..	..	..	2	..	1	..	1	3	..	..	..	..
Zoology	5	4	..	4	..	1	..	1	1	..	..	2	5	1	..	..	1
Botany	8	2	3	4	..	2	1	1	..	..	1	3	1	1	..	..	..
Chemistry	6	3	..	4	1	1	..	1	1	..	..	3	..	..	3	1	1
Physics	9	3	1	2	..	..	..	1	..	2	2	1	..	..	..	..	..
Physical science	1	1	..	1	..	..	..	1	1	1	..	..	..	1	..	..	..
Geography	4	2	..	2	..	1	1	1	1	..	..	2	3	1	1	..	1
Latin	20	13	1	..	..	5	..	..	3	..	4	4	..	3	3	3	..
French	18	14	..	..	..	1	1	..	1	..	7	7	..	..	..	1	1
German	12	10	..	..	..	1	..	..	1	2	3	1	..	2	1	..	..
Spanish	4	3	..	..	..	1	..	..	..	..	1	..	..	1	..	..	..
Swedish	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
English	28	13	1	..	..	2	..	..	9	..	5	5	..	2	4	6	..
Public speaking	5	3	..	..	..	1	1	..	..	..	1	..	..	..	..	1	..
Home economics	13	13	5	1	5	5	5	3	13	5	8	4	..	..	..	3	3
Manual arts	2	1	..	..	..	..	..	..	1	1	1	..	..	..	..	..	1
Mathematics	21	17	1	..	1	2	..	..	4	..	2	3	..	1	..	1	..
History	19	15	1	..	4	7	3	6	3	..	5	7	..	5	..	4	2
Totals	194	128	14	23	11	34	12	17	42	14	42	46	16	18	13	20	13

TABLE G (Part II)

Principles of teaching	3	Assistant teaching	4
The learning process	2	Quizzes and tests	10
Memory	1	Correcting papers, etc	9
Acquiring motor control	2	Credit for home work	4
Drill	3	Score cards	1
Applied psychology	7	Class standards	1
Logical and psychological order	2	Individual progress	1
Motivation	5	Group progress	1
Vitalization	6	Use of graphs to denote progress	1
Experiments to improve teaching	4	The marking system	9
Laboratory method	2	Intelligence tests	1
Discussion method	2	Educational tests and measurements	7
Project method	8	Methods of study	3
Problem method	5	Supervised study	5
Problem-project method	1	Directed study	2
Heuristic method	2	Guided study	1
Analysis and synthesis	1	How to study	3
Lecture method	1	Home work	7
Inductive method	2	School management	1
Deductive method	2	Business methods of department	1
Textbook method	1	Class management	10
Five formal steps	3	Size of classes	6
Application	1	Seating arrangement	2
Heuristic vs. method of verification	1	Arranging schedule	3
Oral recitation	1	Discipline	10
Topical recitation	1	Physical condition of room	2
Written recitation	1	Outside reading	1
Written work	3	Program of work of first day	4
Outlines	1	Length of periods	2
Reviews	8	Economizing time	1
Socialized recitation	5	Problems of special interest or difficulty	2
Individual instruction	7	Devices and aids	5
Individual differences	3	Conferences	2
Lesson forms	2	How to meet emergencies	2
Demonstration exercises	1		

The order of frequency of topics is:

1. Special methods
2. Observation
3. Making of lesson plans
4. Practice teaching
5. The recitation
6. Laboratory technique
7. The assignment
8. Examinations
9. The notebook
10. Field trips
11. General methods

12. The demonstration lesson
13. Grading papers
14. Time allotment
15. Questioning
16. Interest

17. Quizzes and tests
18. Class management
19. Discipline
20. Correct papers, etc.
21. The marking system
22. The project method
23. Reviews
24. Applied psychology
25. Individual instruction
26. Educational tests and measurements
27. Home work
28. Vitalization
29. Size of classes
30. Motivation
31. The problem method
32. The socialized recitation
33. Supervised study
34. Devices and aids

35. Experiments to improve teaching
36. Assistant teaching
37. Credit for home work
38. Program of work of the first day
39. Principles of teaching
40. Drill, or the development of accurate habits
41. Five formal steps
42. Individual differences
43. Methods of study
44. How to study
45. Arranging the schedule
46. The learning process
47. Acquiring motor control
48. Logical and psychological order

49. Laboratory method
50. Discussion method
51. Heuristic method
52. Inductive method
53. Deductive method
54. Lesson forms
55. Directed study
56. Seating of pupils
57. Lighting, heating and ventilation
58. Length of periods
59. Problems of special interest or difficulty
60. Conferences
61. How to meet emergencies
62. Memory
63. Problem-project method
64. Analysis and synthesis method
65. Lecture method
66. Textbook method
67. Application
68. Heuristic vs. method of verification
69. Oral recitation
70. Topical recitation
71. Written recitation
72. Outlines
73. Demonstration exercise
74. Score cards
75. Class standards
76. Individual progress
77. Group progress
78. Use of graphs to denote progress
79. General intelligence tests
80. Guided study
81. School management
82. Business methods of the department
83. Outside reading
84. Economizing time

The first noticeable thing about this list of topics is its extremely wide range. Under the many items that compose it may be found a place for practically every one of those recorded

in the summary of the general methods courses. But, although the range is so great, more than half of the items are to be found in the third section of the list, which includes only such topics as have been mentioned four times or less. The table will show that most of these items are variants of a certain inclusive topic, such as *e. g.*, a certain type of lesson, recitation, method of recording results, or school or class management.

In a consideration of the topics in the first section, the treatment of the special methods of teaching is specifically mentioned in more than 50 percent of the courses and in the case of every subject. The greater part of the time devoted to the course should be spent on this very item, for *it is the specific purpose of the course to impart such information.* In combination with the discussion of the special problems of content it should give to the student instruction in the most efficient and economical methods of teaching the subject-matter. All the known and practical devices used by secondary school teachers should be made the important object of discussion. This is the big purpose of any special methods course. As was stated in the discussion under content, the instructor may well spend almost all of his time on this one thing. It is what his students will remember when they come face to face with the job. Consequently many of the items named can be omitted or else reserved for the general methods course. In institutions where no general methods course is offered there is justification for the inclusion in special methods courses of topics that belong primarily to the general course, such as types of learning, types of recitations, classroom management, discipline, marking system, methods of study, etc. Similarly, Professor Parker to the contrary, only under such conditions is there an excuse for spending any time in the general course on a discussion of the methods to be used in particular subjects. A clearer line of distinction needs to be drawn between the two types, if each is to do its most effective work and not encroach upon the field of the other.

Other important features in connection with the special methods work are the making of observations, the writing of lesson plans, practice teaching, the assignment of the lesson, examinations, and the grading of papers. The first three items are particularly important, for they give the student an op-

portunity to see applied and to apply for himself the lessons which he has been taught in class. They form the laboratory part of his training, without which no student should ever try to teach. If the institution has no high school of its own or is unable to make arrangements for such work in the city high school, a good substitute can be found in having the students practice on each other in class or assist in freshman college work in their subject. The making of examinations and the correcting and grading of papers deserve special treatment in each subject, as there are certain problems peculiar to each that must be distinguished. The making of an examination in French is a different matter from that of making one in home economics. The student needs to know what kind of questions to ask and how to rate them as to comparative difficulty.

The topics of the recitation, laboratory technique, notebooks, field trips, and devices and aids belong properly to the general topic of special methods.

In the second section, individual instruction, the project and problem methods, socialized recitation, supervised study, vitalization and motivation, and reviews have a place in a special methods course only in so far as they limit themselves to their application to that particular subject. The educational or standard tests that have been developed to assist supervisors and teachers in each subject should be given to the students, so that they may know how to use them to evaluate their own teaching.

GENERAL METHODS

The main topics discussed in general methods courses are:

Aims of secondary education
Aims of education
Collateral readings and reports
Standards for the selection of subject matter
School organization, administration, and management
Organization of the curriculum
Types of lessons
The recitation and its technique
Individual differences
Lesson plans
Socialized recitation
Questioning

Motivation and interest
The learning process
Acquiring motor control
Drill
Reasoning
Expression
Classroom management
Economy in high-school teaching
Discipline
The assignment
Methods of study
Supervised study
The use of text-books
Testing the results of teaching
Examinations
Standard tests and measurements
The marking system
Methods of teaching special subjects
Qualifications of the teacher
Study of the high school pupil
The making of lesson plans
Observation
Practice teaching

Every one of the above items finds its counterpart in the tables of the analysis of the content of the special subjects. With the exception of the first three and those on the teacher and the pupil, all are listed in Table G. There is this difference, however, that in the general methods courses these topics receive major treatment, whereas in the special methods courses they receive a more incidental consideration. The chief distinctions between the types of courses have already been discussed under the subjects of content and methods.

CHAPTER III

STANDARD COURSES

The general methods course, as its name implies, deals with the general aspects of the learning process and with efficient methods of teaching as applied to the high school. These two elements are the ones that should receive the greatest amount of attention on the part of the instructor. In special methods courses, on the other hand, the important element is the development of ways and means of handling the points of difficulty that are peculiar to the teaching of each subject. Closely associated with this element is the second one of the general methods course, efficient methods of teaching, in this case as applied to a particular subject. Efficiency in the first instance is concerned with teaching in general and has to do more with the externals of teaching, such as methods of calling upon students for recitations, methods of giving examinations and of collecting papers, methods of recording grades, of giving out assignments, etc. In the second case it deals with the actual teaching of particular points in the lesson.

It is on the above basis, together with the tendencies shown in the tables of the preceding chapter, that suggested standards are herewith proposed for the two types of methods courses. The attempt has been made, wherever possible, to avoid unnecessary duplications, so that the student may not be repeating a large part of one course when he comes to take the other. It must also be borne in mind that wherever a certain topic is mentioned in both types, such as, for example, individual instruction, in the special methods course this topic is to be treated with reference to that *particular* subject, and in the general methods course with reference to the whole field of high-school instruction.

There is no place in a special methods course for advanced studies in the field of any one subject, such as Chaucerian pronunciation in an English course, higher mathematics in a mathematics course, or historical Latin grammar in a Latin course any

more than there is place in a general methods course for a detailed study of special subjects which compose the high school curriculum. Advanced work belongs to advanced courses in the department, and a study of special subjects belongs (a) to a course on the high-school curriculum, and (b) to the special methods courses.

With these principles as a foundation, the following two types of courses are presented:

A

Suggested Standards for Courses in the Methods of Teaching Special Subjects

Aims, Values, etc.—
- The aims of the subject
- Historical sketch
- Values
- Place in the curriculum
- Correlations with other subjects
- Justification

Books—
- Examination and study of textbooks
- Bibliography and lists of reference books
- Periodicals and bulletins
- The library
- Publishing houses

Equipment in Science—
- The laboratory: amount, kind, and cost of equipment
- The use of instruments and material
- Sources of material
- Collection and preservation of material
- Dealers

Other Equipment—
- Illustrative material
- Maps, charts, pictures, etc.
- Supplementary aids

Content—
- Discussion of the content material, with special attention to points of difficulty
- Study of existing courses of study
- Planning theoretical courses of study

The course of study in the grades
Reorganization of subject matter
Collateral readings and reports

The Teacher—

Special training and preparation
Self-improvement in the teacher's special field of work

The Pupil—

Study of the high-school pupil
Individual differences
Relation of the course to the future plans of the pupil

Methods—

The study of special methods
Observation of teaching
Making lesson plans
Practice teaching
Examinations
Grading and correcting papers
Individual instruction
Socialized recitation
Standard tests and scales

B

Suggested Standards for Courses in General Methods of Teaching High School Subjects

Aims, Values, etc.—

Aims of education
Aims of secondary education

Organization—

School organization and administration
Classroom management and discipline
Organization of the curriculum
Standards for the selection of subject matter

The Learning Process—

Study of the high-school pupil
Individual differences
Acquiring motor control
Drill
Reasoning

Appreciation
Expression
Motivation and interest

Economy in Teaching—

The recitation and its technique
Types of lessons
Socialized recitation
Individual instruction
Questioning
The assignment
Methods of study and supervised study
The use of textbooks
Testing the results of teaching
Examinations
Standard tests and measurements
The marking system
The use of lesson plans
Special devices and supplementary aids

Laboratory Work—

The making of lesson plans
Observation
Practice teaching
Collateral readings and reports

In order that the topics in these courses may be covered by the instructor, a minimum time of two hours a week throughout the year is suggested.

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